

REMARKS

Claims 1-40 remain pending, claims 12-22 were previously withdrawn. Reconsideration and withdrawal of all outstanding rejections are respectfully requested in light of the following remarks.

Claims 1, 2, 6-8, 10, 11, 23, 24, 28-30, and 32-33 stand rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,711,989 to Ciardella ("Ciardella"). The rejection is traversed.

The present invention, as embodied by independent claims 1, 23, and 34 relates to an apparatus for manufacturing a semiconductor device utilizing a droplet system. The apparatus includes a control unit for controlling the discharge of droplets of raw sealant resin in an improved manner on a substrate area, such that an area where a bump electrode is formed on the substrate is excluded from droplet discharge.

Ciardella teaches generally controlling high speed viscous fluid dispensing with a computer. Ciardella does not teach all of the claim limitations as recited by independent claims 1, 23 and 34.

For example, Ciardella does not teach or suggest providing droplets on a semiconductor wafer "substrate [provided] with at least one electrode formed on a first surface thereof." This absent teaching appears to be noted in the Office Action, albeit not with respect to this rejection. Office Action, at p. 5 ("while Ciardella does disclose a semiconductor substrate (circuit board 35), Ciardella is silent as to the details of the circuit board."). More specifically, Ciardella provides no teaching or suggestion of a control unit for "controlling said discharging mechanism. . . such that said raw sealant resin is attached to said first surface of said semiconductor wafer substrate except at least a portion of said electrode," as recited by independent claims 1 and 23.

For at least these reasons, withdrawal of the rejection of independent claims 1 and 23 and claims 2, 6-8, 10, 11, 24, 28-30, and 32-33, dependent therefrom, is requested.

Claims 4, 26, 34-36, 38 and 40 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Ciardella in view of U.S. Patent No. 5,906,682 to Bouras ("Bouras"). The rejection is traversed.

In order to establish a *prima facie* case of obviousness, "there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings." M.P.E.P. § 2143. Applicant respectfully submits that the Office Action does not establish a *prima facie* case of obviousness.

As stated above, Ciardella relates to a droplet type dispensing system. Bouras, on the other hand, relates to an underfill epoxy system. See Col. 1, line 12 and col. 2, lines 26-29. The apparatus taught by Bouras uses a capillary action that the droplet system does not. To combine these teachings as suggested in the Office Action would require a modification of one or both of the references that would "change the principle of operation of the prior art invention being modified." M.P.E.P. §2143.01 (citing *In Re Rattio*, 270 F.2d 810 (CCPA 1959)).

Moreover, Bouras specifically teaches away from using a droplet system, stating that pin transfer (droplet) systems are fast but undesirable because they are "expensive and inflexible and can form only dots." Col. 1, line 25-27. Thus, Bouras teaches away from the exact combination that is properly being made by the Office Action. M.P.E.P. § 2141.03 ("A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention.").

For at least these reasons Applicant submits that Office Action does not provide a proper *prima facie* case of obviousness with respect to the claimed invention. Withdrawal of the rejection of claims 4, 26, 34-36, 38 and 40 is respectfully requested.

Claims 3, 5, 25, 27, 31, and 37 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Ciardella in view of Bouras and further in view of U.S. Patent No. 5,935,375 to Nakazawa ("Nakazawa"). Claims 5, 9, 27, 31, and 39 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Ciardella in view of Bouras and further in view of U.S. Patent No. 6,007,631 to Prentice ("Prentice"). Claims 5, 9, 27, 31, and 39 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Ciardella in view of Bouras and further in view of U.S. Patent No. 6,017,392 to Cavallaro ("Cavallaro"). These rejections are traversed.

For whatever Nakazawa, Prentice, and Cavallaro teach regarding multiple discharging means or nozzles, none of these references could or do cure the problems with respect to the combination of Ciardella and Bouras, as suggested in the Office Action. Therefore, reconsideration and withdrawal of these rejections, and the allowance of claims 5, 9, 27, 31, 37, and 39, are requested.

In view of the above amendment, Applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

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